

## CLAIMS

1. A radio communication system comprising a primary station and a plurality of secondary stations, the system having a communication channel  
5 between the primary station and a secondary station, the channel comprising an uplink and a downlink control channel for the transmission of control information, and a data channel for the transmission of data packets, characterised in that the primary and secondary stations have traffic reduction means for reducing traffic in the uplink and downlink control channels, and  
10 control means for activating the traffic reduction means.

2. A system as claimed in claim 1, characterised in that the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel.

15 3. A system as claimed in claim 2, characterised in that the traffic reduction means comprises means for transmitting a reduced amount of control information compared to that transmitted during transmission of data packets.

20 4. A system as claimed in any one of claims 1 to 3, characterised in that control information is transmitted in allocated time slots, and in that the traffic reduction means operates to transmit control information in one out of every N available slots, where N is an integer greater than 1.

25 5. A system as claimed in claim 1, characterised in that the traffic reduction means comprises means for interrupting transmission of the uplink and downlink control channels.

30 6. A primary station for use in a radio communication system having a communication channel between the primary station and a secondary station, the channel comprising an uplink and a downlink control channel for the

transmission of control information, and a data channel for the transmission of data packets, characterised in that traffic reduction means are provided for reducing traffic in the downlink control channel, and control means are provided for activating the traffic reduction means.

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7. A primary station as claimed in claim 6, characterised in that the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel.

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8. A primary station as claimed in claim 6 or 7, characterised in that control information is transmitted in allocated time slots, and in that the traffic reduction means comprises means for transmitting a reduced amount of control information compared to that transmitted during transmission of data packets by transmitting control information in one out of every N available slots, where N is an integer greater than 1.

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9. A secondary station for use in a radio communication system having a communication channel between the secondary station and a primary station, the channel comprising an uplink and a downlink control channel for the transmission of control information, and a data channel for the transmission of data packets, characterised in that traffic reduction means are provided for reducing traffic in the uplink control channel, and control means are provided for activating the traffic reduction means

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10. A secondary station as claimed in claim 9, characterised in that the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel.

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11. A secondary station as claimed in claim 9 or 10, characterised in that control information is transmitted in allocated time slots, and in that the traffic reduction means comprises means for transmitting a reduced amount of control information compared to that transmitted during transmission of data

packets by transmitting control information in one out of every N available slots, where N is an integer greater than 1.

12. A method of operating a radio communication system comprising  
5 a primary station and a plurality of secondary stations, the system having a communication channel between the primary station and a secondary station, the channel comprising an uplink and a downlink control channel for the transmission of control information, and a data channel for the transmission of data packets, characterised by the primary and secondary stations being able  
10 to reduce traffic in the uplink and downlink control channels.

13. A method as claimed in claim 12, characterised by the reduction  
in traffic in the uplink and downlink control channels being initiated after a  
predetermined period has passed without transmission of a data packet on  
15 the data channel.

14. A method as claimed in claim 12 or 13, characterised by control  
information being transmitted in allocated time slots, and by the reduction in  
traffic including a reduction in the amount of control information compared to  
20 that transmitted during transmission of data packets by transmitting control  
information in one out of every N available slots, where N is an integer greater  
than 1.